

103. TOTANUS GLAREOLA (Linn.).

Actitis glareola, Wald. *op. cit.* p. 97.

a. Kema, no date.

104. TOTANUS CALIDRIS (Linn.).

Totanus calidris, Wald. *op. cit.* p. 97.

a. Kema, no date.

105. ARDEOLA LEUCOPTERA, Bodd.

Ardeola speciosa, Wald. *op. cit.* p. 98.

a. ♂. Limbotto Lake.

In full plumage. Iris yellow; bill yellowish green, black at tip and with base of culmen reddish brown; tarsus and feet greenish yellow.

106. ARDETTA SINENSIS (Gm.).

Ardetta sinensis, Wald. *op. cit.* p. 99.

a. ♂. Limbotto Lake.

b. Kema.

107. DEMIEGRETTE SACRA (Gm.).

Demiegretta sacra, Wald. *op. cit.* p. 100.

a. Kema.

b. ♀. Maim Bay, N. Celebes.

This species was extremely abundant at the mouths of streams in N. Celebes, and white varieties appeared not uncommon.

108. BUTORIDES JAVANICA (Horsf.).

Butorides javanica, Wald. *op. cit.* p. 100.

a, ♂ (full plumage). Kema.

b, c. ♂ *juv.* Kema.

d. ♂. Menado.

e. ♀. Menado.

2. Report on the Collection of Birds obtained during the Voyage of the Yacht 'Marchesa.'—Part V. The Molucca Islands. By F. H. H. GUILLEMARD, M.A., M.D., F.L.S., &c.

[Received May 27, 1885.]

(Plate XXXIV.)

The 'Marchesa,' after leaving the Gulf of Gorontalo in Celebes, proceeded to the Moluccas, and remained some time at Ternate, whence a visit was paid to the neighbouring island of Halmaheira, better known to the English as Gilolo. Proceeding southwards again, the large island of Batchian was touched at with the view of

procuring coal, and a considerable number of birds were obtained, including examples of *Semioptera wallacei*. From here a visit of a few days was paid to the little-known and uninhabited Obi group. Owing, however, to the thoroughness of Berstein's work in this locality, no new species were obtained. Before leaving for the Papuan islands the 'Marchesa' visited the Weeda group, a new locality hitherto unexplored by naturalists, lying to the eastward of the southern peninsula of Halmaheira. Here the only novelty procured by the party in the Moluccas was met with, an *Eos* closely allied to *E. riciniata*.

A total of sixty-nine species was collected in the Moluccas, a list of which is here given. The arrangement adopted in Salvadori's 'Ornitologia della Papuasias e delle Molucche' has been followed throughout.

1. *CUNCUMA LEUCOGASTER* (Gm.).

Cuncuma leucogaster, Salvad. Ornitologia della Papuasias e delle Molucche, vol. i. p. 7.

a. ♂. Obi Major.

Iris marbled, yellowish; bill bluish horn; feet grey.

Somewhat common in the Moluccas, frequenting the sea-shore.

2. *HALIASTUR INTERMEDIUS*, Gurney.

Haliastur intermedius, Salvad. *op. cit.* vol. i. p. 19.

a. Obi Major.

3. *TINNUNCULUS MOLUCCENSIS*, Schleg.

Tinnunculus moluccensis, Salvad. *op. cit.* vol. i. p. 37.

a. ♀. Batchian.

Iris brown; bill slate; nasal sheath and feet yellow, claws black.

Length 35·8 centims., wing 22·9.

4. *CACATUA ALBA* (Müll.).

Cacatua alba, Salvadori, *op. cit.* vol. i. p. 99.

a. ♂. Batchian village, Batchian.

b. ♀. Batchian village.

c. ♂. Bisa I., Obi group.

Iris of the Batchian birds blue; of the Obi example red. Bill and legs black. Length of wing 27·0–28·0 centims. In all the above individuals the bare space round the eye was yellowish. This species has the same habits as the representative *C. triton* of the Papuan islands, screaming noisily at sunset round the tops of the highest trees. *C. alba* has not previously been recorded from the Obi group, where it appears to be somewhat scarce.

5. *TANYGNATHUS MEGALORHYNCHUS* (Bodd.).

Tanygnathus megalorhynchus, Salvad. *op. cit.* vol. i. p. 129.

a. ♂. Weeda Islands, S.E. Halmaheira.

Iris whitish yellow; bill scarlet; tarsus dull olive-green. Length 42 centims.; wing 24 centims.

6. GEOFFROYUS CYANICOLLIS (S. Müll.).

Geoffroyus cyanicollis, Salvad. *op. cit.* vol. i. p. 191.

a-c. ♂. Batchian.

d-g. ♀. Batchian.

h, i. ♂, *juv.* Batchian.

k, l. ♂. Sidangoli, Halmahera.

m-o. ♀. Sidangoli.

Iris pale yellow; bill black, maxilla of ♂ red; feet dull olive-green. Length 28·2–29·5 centims.; wing 17·0–18·2 centims. The Halmahera birds have the head much brighter than those from Batchian, and in the female the collar is of a lighter blue, as are also the under wing-coverts. In the series of over fifty examples in Salvadori's collection only one, and that a female, is from Batchian. It appears to me, however, that a larger series might prove the birds from the latter locality to be separable. It is worthy of remark that in the individuals *h, i* the feathers of the back and uropygium are red-brown, as is the case in *G. obiensis*. Neither bird is, however, in quite mature plumage.

7. GEOFFROYUS OBIENSIS (Finsch).

Geoffroyus obiensis, Salvad. *op. cit.* vol. i. p. 193.

a. ♂. Obi Major.

b, c. ♀. Obi Major.

Iris yellow; bill black, maxilla in ♂ red; feet olive-grey. Size rather smaller than *G. cyanicollis*.

The red-brown rump has been given as the distinguishing characteristic of this species, but, as already noticed, it was also present in two examples of *G. cyanicollis* from Batchian. Salvadori does not mention, however, what seems to be a marked feature of distinction between the two species. In the male of *G. obiensis* the blue of the head does not pass backward much beyond the vertex; it ends abruptly, and the occiput is bluish-green. In like manner in the female the bluish-brown is confined to the vertex, and the dark mask thus extends to a very short distance only behind the eye.

8. ECLECTUS RORATUS (P. L. S. Müll.).

Eclectus roratus, Salvad. *op. cit.* vol. i. p. 206.

a-d. ♂. Batchian. (Length 40·7–41·0 centims.; wing 27·0–27·3 centims.)

e-k. ♀. Batchian. (Length 38·2–43·0 centims.; wing 24·5–6·1 centims.)

l, m. ♀. Ternate.

Iris yellow in both sexes in the Batchian birds. Bill of female black; bill of male rosy red, yellowish at the tip; mandible black; tarsus black or dirty brown.

These birds, though caught and kept in confinement in considerable numbers, appear rarely to get tame, and I have never heard them talk.

9. *LORIUS DOMICELLA* (Linn.).

Lorius domicella, Salvad. *op. cit.* vol. i. p. 236.

a-c. ♂. Obtained alive at Amboina.

d. ♀. Obtained alive at Amboina.

One of these birds exhibits the well-known tendency of many of the Parrot tribe to turn yellow in confinement. The wings, under wing-coverts, scapulars, back, and uropygium are more or less marked with that colour, and the yellow pectoral band is also more conspicuous than usual.

10. *LORIUS FLAVO-PALLIATUS*, Salvad.

Lorius flavo-palliatus, Salvad. *op. cit.* vol. i. p. 243.

a, b. ♂. Batchian.

c. ♀. Batchian.

d. Batchian.

e, f. ♂. Obi Latu.

g. ♂. Obi Major.

h. ♀. Obi Major.

Iris of the Batchian birds yellow or orange; of the Obi birds yellowish brown. Bill orange; feet greyish black.

With the exception of the different colour of the iris, there is no noticeable difference between the birds from the Obi group and from Batchian.

11. *EOS RICINIATA* (Bechst.).

Eos riciniata, Salvad. *op. cit.* vol. i. p. 259.

a, b. ♂. Ternate.

c-f. ♀. Ternate.

g. ♂. *juv.* Ternate. (Bill brownish red.)

h. ♀, *juv.* Ternate. (Bill brownish red.)

i-l. ♂. Batchian.

m-q. ♀. Batchian.

r. ♂. Obi Major.

Iris yellow; bill dull red, yellow at tip; tarsus dull grey. The example marked *r* was the only one obtained from the Obi group, and differs considerably from all the others in having the head, throat, and breast entirely red. There is no violet nuchal collar, a few feathers only on the nape being tipped with that colour. Immediately below the auricular region on each side is a small patch of dull violet. The total length was 25.0 centims.; wing 13.8 centims.; which measurements agree with those of the rest of the series (length 23.0–25.5 centims.; wing 13.6–14.3 centims.). With regard to the variation of this species, Salvadori informs us that "in the Leyden Museum an adult Obi bird, another from Dammar, and a third from Moor" (island to the S. of Halmaheira) "are noteworthy in having an occipital violet spot separated by a red space from the violet collar; others from Dammar (No. 31) and Moor (No. 33) are exactly like ordinary individuals from Halmaheira and Batchian."

12. *EOS INSULARIS*, sp. nov. (Plate XXXIV.)

E. riciniatæ similis, sed major, lætior, ac iride rubra; maculâ violaceâ occipitis cum fasciâ cervicali ejusdem coloris haud confluenta, sed torque rubro separata.

- a. ♂. Weeda Islands, S.E. Halmaheira. (Length 27·2; wing 15·2 centims.)
 b. ♂. Weeda Islands, S.E. Halmaheira. (Length 26·5; wing 13·8 centims.)
 c. ♂. Weeda Islands, S.E. Halmaheira. (Length 27·2; wing 14·6 centims.)
 d. ♂. Weeda Islands, S.E. Halmaheira. (Length 27·3; wing 14·4 centims.)
 e. ♀. Weeda Islands, S.E. Halmaheira. (Length 27·2; wing 14·6 centims.)

Iris red; bill orange, yellow at the tip; feet black.

This species much resembles *E. riciniata*, but differs in the following particulars. The occipital violet patch is very small, and is separated from the nuchal collar by a broad band of red. Both the nuchal and pre-pectoral violet collars are small, and the violet of the abdomen does not pass upwards on to the breast, thus leaving a broad red pectoral band. The iris is red, thus differing from *E. riciniata*, in which it is yellow; and lastly, the latter species is of markedly smaller size, as will be seen on a comparison of the measurements.

The individuals of the present series are alike, except that in one the occipital spot is partially connected with the nuchal collar. The bird, however, is apparently moulting.

The Weeda Islands are a coral group hitherto unvisited by any naturalist, lying to the east of the extreme south point of Halmaheira or Gilolo. They are not to be confounded with the village of Weeda on the mainland of Halmaheira.

13. *CORIPHILUS PLACENS* (Temm.).

Coriphilus placens, Salvad. *op. cit.* vol. i. p. 303.

a. ♂. Sidangoli, Halmaheira.

b. ♀. Sidangoli.

Iris yellow; bill and feet bright red. Male, length 18·8, wing 9·4 centims.; female, length 19·2, wing 9·2 centims.

14. *CUCULUS CANOROIDES*, S. Müll.

Cuculus canoroides, Salvad. *op. cit.* vol. i. p. 328.

a. ♂. Weeda Islands, S.E. Halmaheira.

b. ♀. Weeda Islands.

Iris brown, greyish in the female; bill black, lower mandible green at base; feet bright yellow. Length of male 32·8 centims., wing 19·5; of female 29·5 centims., wing 18·8. Shot October 16th.

Both examples are in imperfect plumage, with the feathers of the upper surface greyish brown margined with white.

15. NESOCENTOR GOLIATH (Forsten).

Nesocentor goliath, Salvad. *op. cit.* vol. i. p. 382.

a. ♂. Batchian.

Iris red; bare circumocular skin blue; bill, feet, and tarsus black. Contrary to what might be expected, this species does not appear to have the habits of the Ground Cuckoos, as it frequents the forest, and perches frequently on high trees.

16. RHYTIDOCEROS PLICATUS (Penn.).

Rhytidoceros plicatus, Salvad. *op. cit.* vol. i. p. 392.

a. ♂. Batchian.

Iris orange-yellow; bill light yellow; reddish at base; bare skin of throat and round eye pale blue; tarsus black. Length 86·0 centims.

An example fully adult in plumage, but probably not an old bird, as the bill is but little jagged at the edges, and the maxilla is furnished with two plaques only, which are very large. The intervening sulcus is hardly existent in the median line.

17. MEROPS ORNATUS, Lath.

Merops ornatus, Salvad. *op. cit.* vol. i. p. 401.

a, b. ♂. Ternate.

c-e. ♀. Ternate.

Shot in the beginning of October.

18. ALCEDO MOLUCCENSIS, Blyth.

Alcedo ispidoides, Salvad. *op. cit.* vol. i. p. 408.

a. ♂. Batchian.

b. ♀. Batchian.

c. ♂. Obi Major (legs flesh-coloured).

Iris brown; bill black, the female with the base of the lower mandible orange; tarsus coral-red.

The Obi bird is extremely small, as may be seen from the following measurements:—

	Length.	Wing.	Bill.
♀. Batchian	18·5	7·3	5·1
♂. Obi Major	14·5	7·1	4·5

The under surface is very dark rufous, especially on the breast, where the tips of the feathers are tinged with blue. From the appearance of the bill, which was whitish at the tip, and from the colour of the legs, it is probable that the bird is immature, but the colours of the upper surface are very bright.

19. ALCYONE PUSILLA (Temm.).

Alcyone pusilla, Salvad. *op. cit.* vol. i. p. 414.

a. ♂ *juv.* Weeda Islands, S.E. Halmahera.

Iris brown; bill black; legs dull flesh-colour, not brown as in the adult. Length 11·8 centims., wing 5·0, bill from gape 3·1.

The head of this bird is black, barred with light blue, and the upper surface generally is very dull blue. It was shot on the seashore while engaged in hunting for small crustacea, &c.

Examples from the N. Australian region seem brighter than those from the Moluccas and Northern New Guinea.

20. CEYX LEPIDA, Temm.

Ceyx lepida, Salvad. *op. cit.* vol. i. p. 417.

a. ♂. Ternate.

Iris brown; bill and tarsus bright scarlet. Length 16·3 centims.

Wallace speaks of this beautiful species as being abundant in the Moluccas, but I do not think that I met with it half a dozen times during my visit.

21. TANYSIPTERA MARGARETHÆ, Heine.

Tanysiptera margaritæ, Salvad. *op. cit.* vol. i. p. 430.

a. Batchian.

Crown of head much *maillée* in appearance. Spatulæ small, the blue of the shaft of the feather partially invading them.

22. TANYSIPTERA OBIENSIS, Salvad.

Tanysiptera obiensis, Salvad. *op. cit.* vol. i. p. 433.

a-h. ♂. "Obi group."

i. ♀. "Obi group."

k-m. ♂. Obi Major.

n. ♂ *juv.* Obi Major.

o-q. ♀. Obi Major.

r. ♂. Bisa Isand, Obi group.

s. ♀. Bisa Island.

Head brilliant ultramarine, uniform, but on the nape inclining to cobalt. Cheeks, ear-coverts, sides and back of neck, and upper part of back and scapulars deep indigo. Lesser wing-coverts bright ultramarine; quills brownish black, the inner webs white at the base; lower portion of back and tail-coverts pure white, the latter in some examples tipped with dark blue; rectrices white, margined with blue on the outer web; the median pair very long, dark ultramarine, often marked irregularly with white on the inner webs; spatulæ white, sometimes slightly bordered on the outer web with blue. Entire under surface creamy white. Bill scarlet; iris brown; feet yellowish green. Length in full plumage about 40·0 centims. or even longer; middle rectrices 19·0–23·0 centims.; wing 10·9–11·4 centims.; bill from gape 5·0 centims.

The immature bird has the entire under surface rufous, each feather being black at the base and edges, giving a scaly appearance. The upper tail-coverts are tawny white, deeply bordered with black. The wing-coverts are bordered with rufous. The tail-feathers are bluish black above, greyish black below; the median pair, projecting about an inch beyond the others, are entirely bluish black including the spatula, which has only a small central patch of white.

23. TANYSIPTERA DEA (Linn.).

Tanysiptera dea, Salvad. *op. cit.* vol. i. p. 436.

a. Amboina.

24. HALCYON DIOPS, Temm.

Cyanalcyon diops, Salvad. *op. cit.* vol. i. p. 462.

a-d. ♂. Ternate.

e-g. ♀. Ternate.

h, i. ♂. Batchian.

k, l. ♀. Batchian.

m. ♂ *juv.* Batchian.

Iris brown; bill and feet black. Length about 21 centims., wing 8·8–9, bill from gape 4·9–5·3.

This species was apparently very abundant in Ternate.

25. SAUROPATIS SAUROPHAGA (Gould).

Sauropatis saurophaga, Salvad. *op. cit.* vol. i. p. 468.

a, b. ♀. Weeda Islands, S.E. Halmabeira.

c. Weeda Islands.

Iris brown; bill as in *S. chloris*, with the base of the lower mandible white; feet brownish black, Length 26–28·1 centims., wing 11·5–13·2, bill from gape 7·1.

The bluish or greenish shade observable in this species is apparently in no way connected with the sex or locality. Salvadori has shown that the title of *S. albicilla* should be confined to the representative species of the Marianne and Pelew archipelagos.

26. SAUROPATIS CHLORIS (Bodd.).

Sauropatis chloris, Salvad. *op. cit.* vol. i. p. 470.

a-c. ♂. Batchian.

d. ♀. Bisa Island, Obi group.

Iris dark brown; bill black, whitish at base of lower mandible; feet dirty olive-brown.

27. SAUROPATIS SANCTA (Vig. et Horsf.).

Sauropatis sancta, Salvad. *op. cit.* vol. i. p. 476.

a. ♂. Ternate.

b. ♀. Batchian.

c. ♂. Weeda Islands, S.E. Halmabeira.

Iris brown; bill as in *S. chloris*; feet dull green. Length 20·9–21·1 centims. Example *b* is probably not fully adult, being very white beneath, with the feathers of the breast finely tipped with brown.

28. EURYSTOMUS ORIENTALIS (Linn.).

Eurystomus orientalis, Salvad. *op. cit.* vol. i. p. 508.

a, b. ♂. Ternate.

c. ♀. Batchian.

Two of the above have the pallor of the more eastern race, which

is by Salvadori and others regarded as a distinct species under the name *E. pacificus*. The third, a male from Ternate, is darker, and of the occidental type. An examination of a series of skins from Malacca eastwards to New Guinea shows such a gradual shading of the western into the eastern form, that they appear to me to be hardly separable. Schlegel only admits one species; and Salvadori, though considering *E. pacificus* to be distinct, says, "The differences are not very conspicuous, and are evident only when a great number of individuals of the two species are examined." The size of the bill appears to vary considerably.

29. EURYSTOMUS AZUREUS, G. R. Gr.

Eurystomus azureus, Salvad. *op. cit.* vol. i. p. 512.

a. ♂. Batchian.

Iris red-brown (?); bill bright coral; feet red. Length about 35·0 centims., wing 20·4, tail 12·5, bill from gape 4·5, culmen 4·4, width 3·1, tarsus 1·7.

An example of this beautiful bird was shot near the village of Batchian in the month of December. It was regarded by the natives as very rare.

30. MACROPTERYX MYSTACEA (Less.).

Macropteryx mystacea, Salvad. *op. cit.* vol. i. p. 537.

a. ♂. Batchian.

Iris brown; bill and feet black. Length 32·5 centims., wing 22·2, tail 19·0. Shot October 9th.

31. HIRUNDO GUTTURALIS, Scop.

Hirundo gutturalis, Salvad. *op. cit.* vol. ii. p. 1.

a. ♂. Batchian, October 10th.

32. MONARCHA INORNATUS (Garn.).

Monarcha inornatus, Salvad. *op. cit.* vol. ii. p. 14.

a. ♂. Ternate.

Iris brown; bill light horny slate, lighter at edges and tip; feet dark slate. Length 17·4 centims., wing 8·5.

33. MONARCHA CHALYBEOCEPHALUS (Garn.).

Monarcha chalybeocephalus, Salvad. *op. cit.* vol. ii. p. 30.

Piezorhynchus alecto, Cat. B. vol. iv. p. 415.

a, b. ♂. Ternate.

c. ♂. Batchian.

d, e. ♀. Ternate.

f. ♂ (?). Ternate.

Iris brown; bill and feet black. Length 17·1–17·5 centims., wing 8·5–8·8. I am not aware if the young male has the same plumage as the female, but example *f*, which is marked ♂, and is evidently immature, only differs from the females in having the metallic colour of the head passing on to the interscapulars.

34. SAULOPROCTA MELALEUCA (Q. et G.).

Sauloprocta melaleuca, Salvad. *op. cit.* vol. ii. p. 48.

Rhipidura tricolor, Cat. B. vol. iv. p. 339.

a. ♂. Ternate.

b. ♀. Batchian.

c. Batchian?

Iris brown; bill and legs black. Length of Ternate ♂, 21·3 centims.; of Batchian ♀, 21·5; wing 10·3–10·8.

35. RHIPIDURA OBIENSIS, Salvad.

Rhipidura obiensis, Salvad. *op. cit.* vol. ii. p. 59.

a. ♂. Bisa I., Obi group.

b. ♂. Obi Major.

Iris brown; bill and legs black. Length 18 centims., wing 8·8–9·0, tail 8·8–9·2.

Salvadori, who describes only from the single type of the species, gives "*rectricibus duabus (?) extimis ad apicem late albis.*" The external pair alone are tipped with white, and the outer web of the feather is of that colour in its apical half.

This species is easily distinguishable by the broad white edging of the tertiaries.

36. GRAUCALUS MAGNIROSTRIS, Forsten.

Graucalus magnirostris, Salvad. *op. cit.* vol. ii. p. 129.

a. ♂. Batchian.

Iris dark brown; bill and feet black. Length 34·3 centims., wing 17·5. The limit of the black of the head is not abruptly defined, but shades off gradually both above and below into the grey of the back and breast.

37. CANPEPHAGA OBIENSIS (Salvad.).

Edoliisoma obiense, Salvad. *op. cit.* vol. ii. p. 151.

a. ♂ *juv.*? Bisa I., Obi group.

Iris brown; bill blackish brown; feet greenish black. Length 22·8 centims., wing 11·2, tail 10·0, tarsus 2·1, bill from gape 3·0.

Smaller in all its measurements than *C. melas*.

38. LALAGE AUREA (Temm.).

Lalage aurea, Salvad. *op. cit.* vol. ii. p. 163.

a-c. ♂. Ternate.

d. ♀. Ternate.

Iris brown; bill and feet black. Length 18·5–18·8 centims., wing 9·8. Abundant in Ternate.

39. DICRUROPSIS ATROCÆRULEA (G. R. Gr.).

Dicruropsis atrocærulea, Salvad. *op. cit.* vol. ii. p. 176.

a-f. ♂. Batchian.

g. ♀. Penambuan, Batchian.

Iris crimson or orange-red; bill and feet black. Length 34·0–

35.0 centims., wing 16.8-17.4, tail 16.0-17.0, bill from gape 3.6-3.9.

This species is most abundant in Batchian, but does not seem ever to have been recorded from Ternate.

40. DICRUROPSIS, sp. ?

a. ♀. Bisa I, Obi group.

Iris brown; bill and feet black. Length 31.8 centims., wing 16.0, tail 14.5, bill from gape 3.5.

I am unable to refer this bird with certainty to any species, but am unwilling to add yet another species to the already somewhat overburdened genus on the strength of a single example. It is quite distinct from *D. atrocærulea*, not only in the broader pectoral spots but in its small size, and more especially in the possession of metallic hackles at the sides of the neck. The only species of this genus as yet recorded from the Obi group is *D. pectoralis* of Wallace. In the latter, however, the pectoral spots are very much larger and more conspicuous, and are greener in shade, while the neck-hackles are also longer and larger. The head of the Obi bird is without silky filaments, but this is the case in many examples of *D. pectoralis*. It is worthy of remark that the iris was noted by myself as brown.

41. COLLURICINCLA MEGARHYNCHA (Q. et G.).

Colluricincla megarhyncha, Salvad. *op. cit.* vol. ii. p. 211.

a. ♀. Batchian.

This bird occurs in Mr. Kettlewell's collection. As, however, neither this genus nor *Rhectes* has been recorded from the Moluccas, some doubt must exist as to the accuracy of the locality. It does not differ in any way from specimens obtained from the island of Batanta.

42. PACHYCEPHALA MENTALIS, Wall.

Pachycephala mentalis, Salvad. *op. cit.* vol. ii. p. 216.

a. ♂. Ternate.

b. ♀. Batchian.

Iris brown; bill black; feet brown.

43. PACHYCEPHALA OBIENSIS, Salvad.

Pachycephala obiensis, Salvad. *op. cit.* vol. ii. p. 219.

a. ♂. Bisa Island, Obi group.

b. ♀. Obi Major.

Iris brown; bill black; feet in male pinkish grey, in female light brown. Length 19.0 centims.; wing 9.2-9.5.

The female differs from that of *P. mentalis* in being smaller and having the throat light fulvous-brown, not greyish white. In *P. mentalis* the upper breast is brownish and the lower breast and abdomen dull olive-yellow, while in the present species the whole breast and abdomen are dull orange-yellow.

44. CINNYRIS AURICEPS (G. R. Gr.).

Hermotimia auriceps, Salvad. *op. cit.* vol. ii. p. 260.

a-d. ♂. Ternate.

e. ♂. Batchian.

f, g. ♂. Bisa Island, Obi group.

The birds from Bisa Island are characterized by the bright copper-coloured bronze reflections on the head.

45. CINNYRIS FRENATUS (S. Müll.).

Cyrtostomus frenatus, Salvad. *op. cit.* vol. ii. p. 265.

a. ♂. Ternate.

b, c. ♂. Batchian.

d. ♀. Batchian.

Iris dark brown; bill and feet black.

46. MELITOGRAIS GILOLENSIS (Temm.).

Melitograis gilolensis, Salvad. *op. cit.* vol. ii. p. 349.

a, b. ♂. Batchian.

c, d. ♀. Batchian.

Iris brownish red; bill and feet black. Length 22·5 centims.; wing 10·2–11·2.

Feeds on flowering trees in cultivated clearings in the forest.

47. CRINIGER CHLORIS, Finsch.

Criniger chloris, Salvad. *op. cit.* vol. ii. p. 376.

a-e. ♂. Batchian.

f-h. ♀. Batchian.

Iris red brown; bill bluish green, edges lighter; feet slate-colour. Length 21·0 centims.; wing 9·4–10·3.

48. PITTA MAXIMA, Forsten.

Pitta maxima, Salvad. *op. cit.* vol. ii. p. 378.

a, b. ♂. Halmaheira.

c. ♀. Dodinga Bay, Halmaheira.

Obtained from Mr. Bruijn of Ternate.

49. PITTA RUFIVENTRIS (Heine).

Pitta rufiventris, Salvad. *op. cit.* vol. ii. p. 401.

a. ♀. Batchian.

Iris bluish; bill black; feet olive. The bill is more slender in this species than in the other Erythropittas; there is no black throat, and very little trace of a dark line below the blue of the breast. The arrangement of the white spot on the wing in the present individual is the same as in some examples of *P. mackloti*; the inner web of the third primary, both webs of the fourth, and the outer web of the fifth only are white.

50. ANTHUS GUSTAVI, Swinhoe.

Corydalla gustavi, Salvad. *op. cit.* vol. ii. p. 432.

a. ♀. Batchian, October 10th.

51. *ERYTHRURA TRICHROA* (Kittl.).

Erythrura trichroa, Salvad. *op. cit.* vol. ii. p. 442.

a, b. ♂. Ternate.

Bill black; tarsus clear brown. This species, according to Wallace, is found in Ternate at a height of 2000 feet. It does not apparently confine itself to the mountains, as the present examples were obtained at a considerably lower altitude.

52. *CALORNIS METALLICA* (Temm.).

Calornis metallica, Salvad. *op. cit.* vol. ii. p. 447.

a. ♂. Ternate.

Iris red; bill and feet black.

53. *CALORNIS OBSCURA* (Forsten).

Calornis obscura, Salvad. *op. cit.* vol. ii. p. 454.

a-d. ♂. Batchian.

e-g. ♀. Batchian.

h. Batchian.

Iris orange-red; bill and tarsus black. The iris in the females and in one of the males is noted as brown. Length 23·5-24·0 centims.; wing 9·5-10·3.

This species was found to be very numerous in Batchian.

54. *CORVUS VALIDISSIMUS*, Schleg.

Corvus validissimus, Salvad. *op. cit.* vol. ii. p. 487.

a. ♂. Batchian.

Iris very dark brown; bill and feet black. Wing 34·0 centims.; culmen 8·0.

55. *LYCOCORAX OBIENSIS*, Bernst.

Lycocorax obiensis, Salvad. *op. cit.* vol. ii. p. 495.

a, b. ♂. Obi Major.

c-e. ♀. Obi Major.

Head and upper surface obscurely shining greenish black; entire under surface the same but somewhat duller, especially on the abdomen. Tail black above, brownish black beneath, with obsolete bars. Inner remiges very dark brown; primaries buffish brown; shafts of feathers brown above, white beneath; inner web of some of the primaries white at the base. Iris crimson; bill, legs, and feet black. Length 44 centims., wing 19·8-21, tail 15·5-17, culmen 5·2-5·5, tarsus 4·4-4·7.

Salvadori relies on the absence of white on the inner webs of the primaries as a point of diagnosis from *L. morotensis*, which is not borne out by the present series, in all of which, with one exception, it is present. This bird, a female, is much less bright than the others; the wings are a lighter brown, and the primaries buff. The iris in this example was brown, not crimson.

56. SEMIOPTERA WALLACEI (G. R. Gr.).

Semioptera wallacei, Salvad. *op. cit.* vol. ii. p. 572.

a-i. ♂. Batchian.

k. ♂ *vix ad.* Batchian.

l-o. ♂ *juv.* Batchian.

p, q. ♀. Batchian.

Iris brown; bill horn-colour; tarsus yellowish orange. Length 29·7–30 centims., wing 15·2–15·8 (♀ 14·9–15·4), bill from gape 4·2–4·4.

The young males in the first stage of plumage appear not to differ in any way from the females. The assumption of the adult dress appears to take place by a gradual change in the colouring of the feather, not by moult. Thus, in one individual there is a small patch of green on the lower part of the neck, the subalar tufts forming the points of the metallic shield have just appeared, and two or three feathers on either side of the breast are shaded with metallic green. The standards are fully formed, but the nasal tufts are tinged with rufous. The appearance of the alar standards seems to be an early step in the progress towards full plumage. In example *h* the whole of the sides of the neck and breast is a mass of bare feather-cases, from which are springing the bright green pectoral tufts; the front of the breast has finished moulting. The standards, though nearly of full length, are still encased in their sheaths at the base; they are very broad (1·4 centim.) and greyish, not ruddy white as in the other birds. The nasal tufts have no shade of rufous. This is undoubtedly an old bird, and it may therefore be assumed that the ruddy tinge of the nasal plumes in some individuals is a sign of immaturity.

From the number of specimens that our hunters brought us, it is evident that this species must be tolerably abundant in the neighbourhood of the village of Batchian, although I never had the good fortune to see it alive. The natives told us that it was very local, frequenting certain parts of the forest only. This is certainly the case with some others of the *Paradiseidæ*. I cannot help thinking that a further exploration of the large uninhabited island of Obi would add either this or some closely allied species to its avifauna. Its geological characteristics appear to be the same as those of Batchian. There are no volcanic rocks, but conglomerate and sandstone abound, and coal is said to exist, though a visit we made, in company with the Resident of Ternate, in search of it was unsuccessful.

57. PTILOPUS SUPERBUS (Temm.).

Ptilopus superbus, Salvad. *op. cit.* vol. iii. p. 6.

a-c. ♂. Ternate.

d, e. ♀. Ternate.

Iris yellow; bill slate, yellow at tip; feet red. Length 23·3 centims., wing 12·6–13·1.

58. *PTILOPUS PRASINORRHOUS*, G. R. Gr.*Ptilopus prasinorrhous*, Salvad. *op. cit.* vol. iii. p. 41.

a. ♂. Weeda Islands, S.E. Halmaheira.

Iris orange; bill chrome-yellow; feet dull red. This is the most western point from which this species has hitherto been recorded.

59. *PTILOPUS MONACHUS* (Reinw.).*Ptilopus monachus*, Salvad. *op. cit.* vol. iii. p. 20.

a, b. ♂. Sidangoli, Halmaheira.

Iris orange; bill slate; feet red. Length 18·5 centims., wing 10.

60. *PTILOPUS IONOGASTER* (Reinw.).*Ptilopus ionogaster*, Salvad. *op. cit.* vol. iii. p. 54.

a. ♀. Sidangoli, Halmaheira.

Iris yellow; bill slate; tarsus dull red. Length 24 centims., wing 12·4.

61. *CARPOPHAGA MYRISTICIVORA* (Scop.).*Carpophaga myristicivora*, Salvad. *op. cit.* vol. iii. p. 74.

a-k. ♂. Weeda Islands, S.E. Halmaheira.

l-o. ♀. Weeda Islands.

p-r. Weeda Islands.

Iris dull crimson; bill black; feet coral red. Length from 45-48 centims., wing 23·4-25·5.

These Pigeons were very numerous on the Weeda Islands, but we found them so nowhere else. Shot in the middle of November, the cere was in no case large, and in this, as well as in other respects, there seemed to be no difference between the sexes.

62. *CARPOPHAGA BASILICA*, Sund.*Carpophaga basilica*, Salvad. *op. cit.* vol. iii. p. 96.

a, b. Batchian.

Iris reddish; bill black; feet coral-red. Length 42 centims.

The actual apex of the tail in these two examples is not grey, but dusky shaded with green. The upper surface, when the bird is held away from the light, is metallic copper-red, not "golden green with bronze reflections" as in Salvadori's description.

63. *MYRISTICIVORA BICOLOR* (Scop.).*Myristicivora bicolor*, Salvad. *op. cit.* vol. iii. p. 107.

a. ♂. Sidangoli, Halmaheira.

b, c. ♂. Weeda Islands, S.E. Halmaheira.

d-f. ♀. Weeda Islands.

Iris very dark brown; bill greenish horn, yellow at tip; feet bluish black. The Gilolo bird is marked with black on the tibials; it is characterized by having some of the secondaries pure white, and by the wings and tail being greyish black rather than black. With regard to the Weeda Islands examples, it is noticeable that the amount of terminal black in the external pair of rectrices differs

according to the individual. The total length varied from 39–41 centims., wing 22·5–23·5; but one extraordinarily small female from the Weeda Islands only measured 32·8 centims., wing 21·7. It was, however, apparently adult.

64. REINWARDTÆNAS REINWARDTII (Temm.).

Reinwardtœnas reinwardtii, Salvad. *op. cit.* vol. iii. p. 125.

a, b. ♂. Batchian.

c. ♂. Obi Latu.

Iris, inner ring yellow, outer red; circumocular bare skin red; bill red at base, tip brown; tarsus coral-red.

65. MACROPYOGIA BATCHIANENSIS, Wall.

Macropygia batchianensis, Salvad. *op. cit.* vol. iii. p. 136.

a, b. ♂. Ternate.

c. ♀. Ternate.

In *a* the forehead is fulvous, passing into pinkish ash-colour on the vertex, and thence into the bright metallic colour of the cervix. The whole of the breast is vinaceous pink, each feather crossed by a narrow, well-marked, subapical blue-black bar. Example *b* differs in having nearly the whole head fulvous; there is less of the metallic colouring on the cervix, and the barring on the breast is very slight. The general colour of the female is light ruddy chestnut; the forehead strongly marked with black. The cervix and scapulars are barred with pale rufous and black, forming a patch at the back of the neck.

66. CALÆNAS NICOBARICA (Linn.).

Calenas nicobarica, Salvad. *op. cit.* vol. iii. p. 209.

a. ♀. Bisa Island, Obi group.

Iris greyish pink; bill black; tarsus dark coral-red; soles of feet yellowish. Length 37·5 centims., wing 25·5.

With bright copper-coloured reflections on the upper surface; the forehead fuscous, well defined posteriorly.

67. MEGAPODIUS FREYCINETI, Q. et G.

Megapodius freycineti, Salvad. *op. cit.* vol. iii. p. 230.

a. ♂. Batchian.

68. TRINGA ALBESCENS, Temm.

Tringa albescens, Salvad. *op. cit.* vol. iii. p. 315.

a-c. ♂. Weeda Islands, S.E. Halmaheira.

Iris brown; bill and feet black. Length 15·3 centims., wing 10–10·2. Shot October 16.

69. NUMENIUS UROPYGIALIS, Gould.

Numenius variegatus, Salvad. *op. cit.* vol. iii. p. 332.

a. ♂. Obi Major, October 10.